

Appreciating value: Measuring the economic and social contributions of mature age Australians

May 2015

© National Seniors Australia 2015

National Seniors Australia owns copyright in this work. Apart from any use permitted under the Copyright Act 1968, the work may be reproduced in whole or in part for study or training purposes, subject to the inclusion of an acknowledgement of the source. Reproduction for commercial use or sale requires written permission from National Seniors Australia. While all care has been taken in preparing this publication, National Seniors Australia expressly disclaims any liability for any damage from the use of the material contained in this publication and will not be responsible for any loss, howsoever arising, from use or reliance on this material.

Publisher: National Seniors Australia ABN 89 050 523 003 ISBN 978-0-9925994-1-6

Suggested citation: Elizabeth Brooke. Appreciating value: Measuring the economic and social contributions of mature age Australians. National Seniors Australia: 2015.

The Australian Government accepts no responsibility for the accuracy or completeness of any material contained herein and recommends that users exercise their own skill and care with respect to its use.

The material in this report may include views or recommendations of other parties, which do not necessarily reflect the views of the Australian Government or indicate its commitment to a particular course of action.

A reference to a particular person, organisation, product or service in any part of this Report in no way implies any form of endorsement by the Australian Government of that person, organisation, product or service.

The Australian Government disclaims to the extent permitted by law all liability for claims, losses, expenses, damages and costs the user may incur as a result of, or associated with, the use of the information contained herein for any reason whatever.

Appreciating value: Measuring the economic and social contributions of mature age Australians

May 2015

About National Seniors Productive Ageing Centre

National Seniors Australia (National Seniors) is a not-for-profit organisation that gives voice to issues that affect Australians aged 50 years and over. It is the largest membership organisation of its type in Australia with more than 200,000 members and is the fourth largest in the world.

National Seniors Productive Ageing Centre (NSPAC) is an initiative of National Seniors and the Australian Government. NSPAC's aim is to improve quality of life for people aged 50 and over by advancing knowledge and understanding of all aspects of productive ageing.

NSPAC's key objectives are to:

- Support quality consumer-oriented research informed by the experience of people aged 50 and over
- Inform government, business and the community on productive ageing across the life course
- Raise awareness of research findings that are useful for older people
- Be a leading centre for research, education and information on productive ageing in Australia.

For more information visit productiveageing.com.au or call 03 9650 6144.

Acknowledgements

The author of this report is Associate Professor Elizabeth Brooke of Swinburne University of Technology. Associate Professor Brooke wishes to acknowledge the important contributions of Dr Diana Warren based at the Australian Institute of Family Studies who carried out the analysis of the data from the Household, Income and Labour Dynamics in Australia (HILDA) survey. Dr Pragalathan Apputhurai from Swinburne University of Technology undertook statistical analysis.

This report and the associated research were funded by NSPAC. National Seniors Australia and NSPAC gratefully acknowledge the financial and other support provided by the Australian Government Department of Social Services to the NSPAC project. The opinions, comments and/or analysis expressed in this document are those of the authors and do not necessarily represent the views of the Minister for Social Services, and cannot be taken in any way as expressions of government policy.

Executive Summary

Background

Recent Australian Government policies contained in the 2014 Budget that promote extended working lives are based on projected expenditures attributable to the rapid and unprecedented ageing of the population. These costs and demographic 'burdens' are considered to require strong budgetary responses to promote fiscal sustainability. However, the contributions of mature age Australians (defined as aged 45 years and over in this reportⁱ) provide both costed and uncosted contributions that are not included in Government accounts.

The purpose of this National Seniors Productive Ageing Centre (NSPAC) report is to measure the economic and social contributions that mature age Australians make to the economic sustainability of Australia. The contributions are examined in three parts. These are:

1. The economic contribution of mature age workforce participation.
2. The contribution of mature age primary and non-primary carers providing informal care.
3. The contribution of mature age Australians as volunteers.

The economic contribution of mature age workforce participation

The economic contribution of mature age workforce participation was calculated based on the net annual human resources benefits to employers who employ mature age workers.

The labour mobility of mature age workers (aged 45 and over) was compared with that of younger workers (aged 44 and under). Mature age workers remained with an employer 3.7 times longer than younger workers. This ratio was used as the multiplier that was applied to human resources management costs and salaries. This enabled the calculation of the benefits or costs of recruitment, training, absenteeism and lost time due to workers' compensation claims over a one-year period for mature age and younger workers. The net human resources benefits were calculated by adding the benefits minus the costs of mature age workers compared with younger workers.ⁱⁱ

The human resources benefits of employing mature age workers was \$6,111 per worker per annum: \$1,979 (recruitment benefits) + \$4,438 (training benefits) – \$149 (workers' compensation cost) – \$157 (absenteeism cost).

The national level human resources benefits were calculated using the dollar figure for individual net human resources benefits.

The net annual human resources benefits (\$6,111 per worker) were multiplied by 4,480,600 workers aged 45 years and over in 2014 to give a total of \$27.4 billion.

The economic contribution of mature age workers as calculated by the total human resources benefits was estimated at \$27.4 billion per annum.

This sum is more than double the Government's current aged-care expenditure of \$13 billion for 2013–14 that was cited in *Towards Responsible Government – The Report of the National Commission of Audit* (February 2014).

ⁱ The definition of mature age as 45 years and over is consistent with the ABS definition of a mature age worker. (ABS 2008, 4837.0.55.001 – Health of Mature Age Workers in Australia: A Snapshot, 2004–05).

ⁱⁱ This method updates an earlier paper. See Brooke, L. (2003). Human resource costs and benefits of maintaining a mature-age workforce. *International Journal of Manpower*, 24, (3) 260–283.

The contribution of mature age carers providing informal care

Informal care is categorised as: (i) assistance by primary carers for persons with profound or severe core limitations; (ii) assistance by non-primary carers for persons with moderate or mild limitations; and (iii) grandparent care. For this report, the replacement cost method was employed to estimate the value of these contributions.

Assistance by primary carers and non-primary carers

Assistance by primary carers for persons with profound or severe core limitations was provided by 541,000 carers who were aged 45 years and over. This assistance was valued at \$596 per week and \$15.5 billion per annum.

Assistance by non-primary carers for persons with moderate or mild limitations was provided by 1,166,000 carers who were aged 45 years and over. This assistance was valued at \$89 per week and totalled \$5 billion per annum.

The total assistance by primary carers and non-primary carers aged 45 was estimated at \$20.5 billion per annum.

Grandparent care

Grandparents aged 45 years and over provided 937,000 children (aged between 0 and 12 years) with care for an average of eight hours per week at a value of \$1.5 billion per annum. This value of care constitutes both a social contribution and an economic intergenerational transfer to children and grandchildren.

The value of care by grandparents aged 45 and over was estimated at \$1.5 billion per annum.

The total value of informal care contributions of Australians aged 45 and over consists of the assistance by primary carers and non-primary carers (\$20.5 billion) plus the contribution of grandparent care (\$1.5 billion) to give a total of \$22 billion per annum.

The uncosted annual informal care contribution made by people aged 45 years and over was estimated at \$22 billion per annum.

The contribution of mature age Australians as volunteers

The Australian Bureau of Statistics (ABS) collects data on people who give voluntary assistance to others in the context of formal organisations. Voluntary assistance outside the boundaries of formal organisations is significant but data is not currently collected. Examples of the voluntary contribution of mature age Australians include checking on the health of a housebound neighbour, shopping for a person with impaired mobility and taking a neighbour's dog for a walk.

Recent data from the Household, Income and Labour Dynamics in Australia (HILDA) (2012) survey showed that 1,632,677 people aged 45 and over volunteered in some capacity for an average of 6.09 hours per week. This voluntary contribution was valued at \$34.15 per hour based on average weekly earnings, which calculates as \$16.3 billion per annum.

The contribution of volunteerism was valued at \$16.3 billion per annum.

Summary

- The economic benefits of mature age people in the workforce, as measured by their net human resources contributions were estimated at \$27.4 billion per annum.
- The uncOSTed annual informal care contribution made by informal carers aged 45 years and over was estimated at \$22 billion per annum.
- The contribution of volunteerism was estimated at \$16.3 billion per annum.

The sum of the economic and social contributions of mature age Australians (aged 45 years and over) based on the methodology employed in this study, was estimated at \$65.7 billion per annum.

The value is 1.4 times the 2013-14 estimated national deficit of \$47 billion cited in the Commission of Audit February 2014, which amounts to 4.2% of the Gross Domestic Product (Commission of Audit February 2014: iv).

The total value is close to one sixth of current total Commonwealth expenditure, which was estimated at \$409 billion in 2013–14. The figure included spending on social security, education, health and defence, totalling 25.9% of the Gross Domestic Product (GDP) (Commission of Audit February 2014: iv).

Contents

Executive Summary	iii
Background.....	iii
The economic contribution of mature age workforce participation	iii
The contribution of mature age carers providing informal care	iv
The contribution of mature age Australians as volunteers.....	iv
Summary.....	v
Introduction	2
Background.....	2
Part 1: The economic contribution of mature age workforce participation	3
Introduction	3
The human resources benefits and costs of employing mature age workers.....	3
Stage 1: Labour mobility ratio	4
Stage 2: Calculation of human resources costs of mature age versus younger workers.....	5
Cost of recruitment	5
Training	6
Workers' compensation	6
Absenteeism	8
Stage 3: Summary of net human resources contributions of mature age workers	9
Discussion.....	10
Recruitment	10
Training	10
Workers' compensation	10
Absenteeism	11
Further 'soft skills' benefits of mature age workers	11
Conclusion.....	12
Part 2: The contribution of mature age carers providing informal care	13
Introduction	13
The contribution of mature age Australians to informal care	13
Informal care contribution by carers aged 45 and over.....	15
Analysis of replacement costs of mature age informal carers	16
Primary carers' assistance for people with profound or severe core activity limitations	16
Non-primary carers providing assistance to people with mild to moderate core activity limitations	17
Summary	18
Grandparent care.....	18
Summary of the contribution of mature age carers providing informal care	19
Discussion.....	20
Labour force participation and care	20
Conflict between work and care	20
Individual cost of care contributions.....	21
Policy responses	21
Conclusion.....	22
Part 3: The contribution of mature age Australians as volunteers	23
Introduction	23
Analysis of the replacement costs of volunteers.....	23
Discussion.....	25
Conclusions	26
Mature age Australians' appreciating value	26
Policy implications of economic and social contributions	26
References	28



Appreciating value:
Measuring the economic and social
contributions of mature age Australians

Introduction

Background

The age structure of the Australian population is changing mainly because of the rise in life expectancy and low fertility rates. The costs of the ageing population are increasingly being heralded as unsustainable. In May 2014, the Commission of Audit reported an underlying budget deficit of \$47 billion in 2013, which is 3% of GDP.¹ The Commission of Audit recommended measures to meet the Government's stipulation of a budget surplus equivalent to 1% of GDP by 2023–24. Measures that will impact mature age Australians include the rise in age for eligibility for the Age Pension to 70 years by 2035, and the reduction of expenditure on the Age Pension by indexing it to the Consumer Price Index from 2017.

The dependency ratio has been used in the policy discourse to highlight the demographic 'burden' of an ageing population. *The Intergenerational Report 2010*² projects that the proportion of the aged (people 65 years and over) to working age population (people 15–64 years) will be 37% in 2050. Treasury projections of the effects of the ageing population on economic sustainability were based on the interaction between the three Ps: Population, Participation and Productivity.^{3 iii}

The economic and social contributions of Australians aged 45 years and over can provide a significant offset to the projected increasing 'burden' of the ageing population that is a perceived threat to national sustainability. These contributions cross the division between uncoded social and coded economic benefits.

The information provided in this NSPAC report focuses on the social and economic contributions of Australians aged 45 and over. It examines mature age workers human resources management costs and their contributions to informal care and as volunteers. It is divided into three parts:

1. The economic contribution of mature age workforce participation.
2. The contribution of mature age carers providing informal care.
3. The contribution of mature age Australians as volunteers.

This report contains Appendices, which can be accessed at productiveageing.com.au.

ⁱⁱⁱ The contribution of participation by mature age workers to productivity is influenced not only by increasing the aged to working age population ratio, but also by occupation and industry growth patterns, multifactor productivity, including capital equipment and technology, and broader global influences, including terms of trade and currency value.

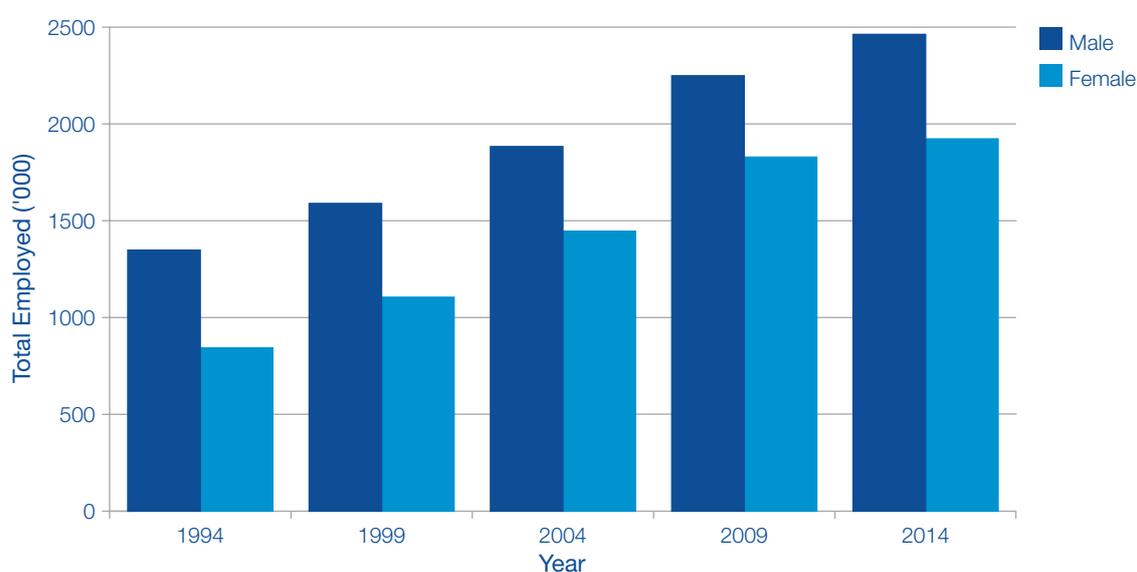
Part 1: The economic contribution of mature age workforce participation

Introduction

The change in the age demographics of the Australian population has resulted in an increase in the number of mature age workers (aged 45 years and over) participating in the workforce. The figure has doubled in two decades from 2,191,400 in 1994 to 4,480,600 in 2014 (Figure 1).

This increased participation has brought benefits to employers because of the lower turnover of mature age workers. From an employer's point of view, longstanding employees provide benefits. Kooji et al. reported that moderate to strong associations have been found between mature age workers and job tenure.⁴ Their review of the job performance of workers (based in meta-analyses) showed that the job performance of mature age workers can be expected to be similar to younger workers, although mature age workers make greater contributions to the social environment. Mature age workers have been found to develop stronger links to their colleagues and invest more deeply in their organisations and professions.⁵ Cappelli and Novelli observed that mature age workers remained in employment longer than younger workers and the experience and emotional intelligence that mature age workers have accrued over their careers assisted teamwork and provided return on investment benefits for employers.⁶ The increased tenure of workers capitalises on training and social skills as well as accrued knowledge that can be transferred to younger workers within the work environment.

Figure 1: Workforce participation of people aged 45 and over by gender, 1994–2014



Source: ABS⁷

The human resources benefits and costs of employing mature age workers

The economic contribution of mature age workforce participation was calculated based on the net annual human resources benefits to employers who employ mature age workers. These human resources benefits and costs of employing mature age workers are discussed in this section. A national benchmarking study, the Mercer Human Resources Effectiveness Monitor (HREM) (2013), was used to calculate the net human resources costs to employers of employing mature age workers based on recruitment, training, workers' compensation, absenteeism and average salary data.⁸

The analysis is based on methods used in an earlier paper, which calculated the net human resources benefits for employers of employing mature age workers.⁹ The analysis was carried out in three stages:

Stage 1: The labour mobility of mature age workers (aged 45 and over) was compared with that of younger workers (aged 44 and under) using labour mobility data collected by the ABS.¹⁰

Stage 2: The fixed and variable human resources costs to employers of mature age workers were identified using the HREM report (July 2012 to June 2013).¹¹ The HREM report was based on human resources cost data collected from Australian organisations across a range of industries.^{iv} The ratio of labour mobility of mature age compared to younger workers was used to calculate the human resources management costs. These human resources management costs included recruitment, training and the costs of work injuries and absenteeism to employers over one year. The net economic contribution of mature age workers was calculated by subtracting the Mercer benchmark cost for the human resources function (e.g. recruitment, training) from the cost based on the multiplier applied to the cost of younger workers.

Stage 3: The human resources benefits were calculated by adding the benefits minus the costs of mature age workers compared to younger workers, for each of the human resource variables. These were then summed and the result formed the estimate of the human resources benefits of mature age workers.

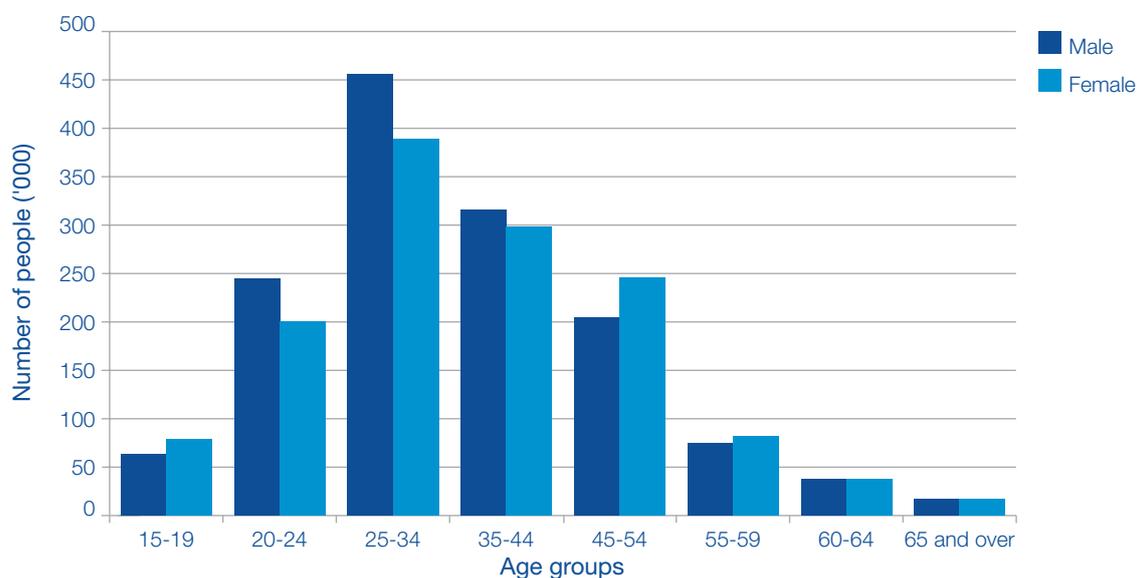
Stage 1: Labour mobility ratio

The ABS definition of labour mobility refers to people who changed or remained in employment per annum (Figure 2).¹² The labour mobility ratio is based on the odds ratio of job changers to job stayers.^v The odds ratio of the labour mobility of mature age workers aged 45 and over compared to younger workers aged 44 and under was used as a multiplier of human resources costs. Mobility rather than duration of employment was used because duration of employment favours mature age workers who have greater opportunity to accrue working years than younger workers. Labour mobility peaks between 25 and 34 years of age followed by another peak between 35 and 44, and males are more likely to change employment than females at these ages (Figure 2). The odds ratio of labour mobility for those aged 44 and under to mobility for those aged 45 and over is 3.7.

Mature age workers are 3.7 times more likely to remain employed with the same employer over a 12 month period than younger workers. The ratio of 3.7 was used as the multiplier applied to the human resources costs of mature age to younger workers.

^{iv} The sample of organisations included those from sectors such as finance and banking (15%), public administration and not-for-profit (12%), pharmaceutical and health care (8.6%), construction and engineering (8.6%) and consumer goods (8.6%). The industries of 45% of the other organisations included ICT, education, business services, energy, insurance, property, sports and recreation, transportation and utilities. The representativeness of industries can be qualified, however, the Mercer benchmarking study provides the most recent, comprehensive and accessible Australian human resources database. It is noted that human resources costs used in the study are an aggregated cost average provided by the Mercer benchmarks, which can be qualified by occupational positions and demographic characteristics such as gender and age.

^v The odds ratio is the ratio of odds that a given outcome will occur among exposed individuals compared to the odds that it will occur among unexposed individuals. If greater than one, this shows that the odds of cases in the exposed group are higher than the odds of cases in the unexposed group.

Figure 2: Labour mobility by age and gender, 2013

Source: ABS¹⁹

Stage 2: Calculation of human resources costs of mature age versus younger workers

Cost of recruitment

The Mercer recruitment data included all direct costs associated with recruitment.^{vi} Indirect costs were not included.^{vii} The costs of recruitment by selected industries are shown in Appendix 1.^{viii}

Average costs of recruitment per employee were \$733 per annum

- A worker aged 45 or over is 3.7 times more likely to remain employed over a 12 month period than a worker aged 44 and under (known as the labour mobility ratio).
- The cost of recruitment multiplied by the ratio of labour mobility for workers aged 45 and over compared with workers 44 and under is $\$733 \times 3.7 = \$2,712$.
- Net contribution of $\$1,979 = \$2,712$ (aged 45+) – $\$733$ (aged 44 and under).
- Average estimated net recruitment benefits of a worker aged 45 and over = $\$1,979$ per annum.

^{vi} These can include advertising, agency fees, travel relocation, credit and reference checking, examination and testing costs, internet costs, referral/sign on bonus and direct recruitment costs. Recruitment costs also vary according to whether costs are internal or paid externally.

^{vii} These include costs such as number of days for replacement of unfilled positions, days to start, new induction and training costs.

^{viii} Appendices can be accessed at productiveageing.com.au.

Training

The Mercer training data included costs for internal and external training incurred and charged directly to design and administer training and development.¹⁴

The average training cost per employee was \$1,644 per annum

- A worker aged 45 or over is 3.7 times more likely to remain employed than a worker aged 44 and under.
- The cost of training multiplied by the ratio of labour mobility for workers aged 45 and over compared with workers 44 and under is $\$1,644 \times 3.7 = \$6,082$.
- Net contribution of $\$6,082$ (aged 45+) – $\$1,644$ (aged 44 and under) = $\$4,438$.
- Average estimated net training benefits of a worker aged 45 and over = $\$4,438$ per annum.

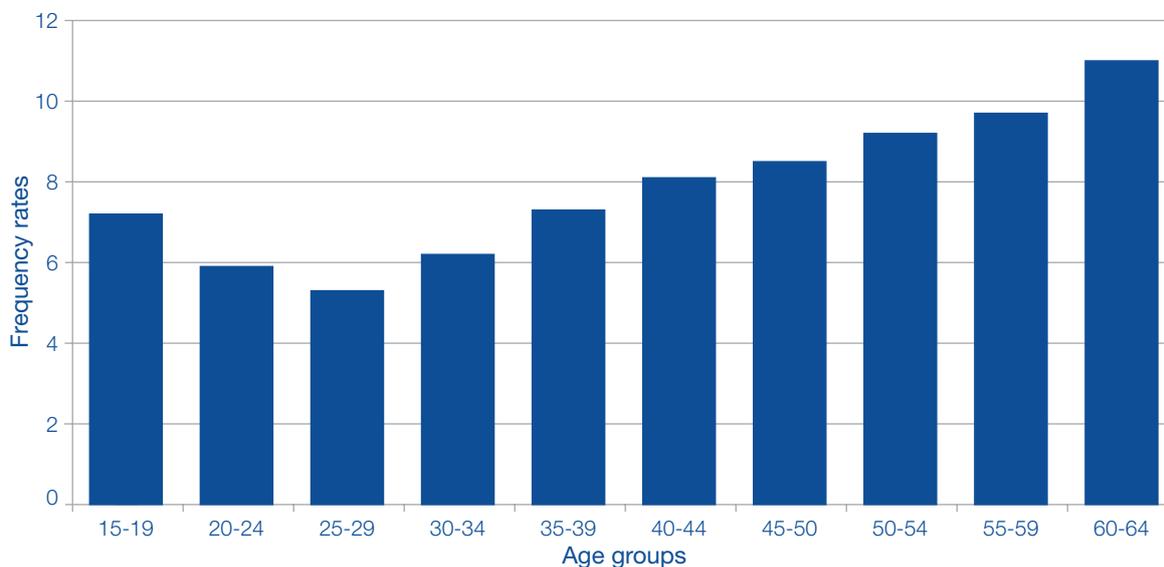
The costs of training categorised by selected industries are shown in Appendix 1.

Workers' compensation

Workers' compensation costs are measured by the number of claims due to a work-related injury or illness that results in an employee being absent from work. The frequency rate of workers' compensation claims of mature age workers versus younger workers was calculated using workers' compensation data from Safe Work Australia.¹⁵ The frequency rates of Safe Work Australia claims per million working hours by age groups were used.^{ix}

The rates of work injuries started increasing in workers aged in their early thirties and reached a peak for those aged 60–64 (Figure 3). The analysis of the ratios between older and younger age groups shows that the mature age workers' frequency rate of workers' compensation claims per million hours worked was 1.1 times greater than that of workers aged under 45.

^{ix} Counting frequency versus incidence negates differences in the proportion of workers that are part time in each of the age groups and changes to the total time spent at their workplaces (Safe Work Australia 2012a). It also negates differences in greater numbers of mid-life versus mature age workers.

Figure 3: Frequency rates of claims per million hours worked by age, 2009–10

Source: Safe Work Australia (2012a)

The ratio of 1.1 was applied to the Mercer (2013) benchmarks of average time lost due to workers' compensation claims and multiplied by the average weekly Mercer salary. The Mercer salary average of an annual \$87,896 base salary was higher than the full-time average weekly ordinary earnings of the ABS.^{16 x}

Mercer estimated that the average days lost because of workers' compensation claims across all industries was 5.84 days per individual worker. Based on ABS data on selected personal and employment characteristics, employees aged 45 years and over were predominantly full-time (70%), with 30% working part-time, i.e. 0.7 Equivalent Full-time (EFT) of the workforce.¹⁷ The estimate of days taken off due to workers' compensation claims takes into account the average days worked by mature age workers.^{xi xii}

^x The assumption underlying the use of the Mercer data is that it was consistent to apply Mercer data to both days lost and wage costs. ABS data: Average Weekly Earnings at \$1453.90 per week × 52 weeks = annual \$74 274 base salary.

^{xi} Calculating the average number of days worked as a proportion of working time (0.7 EFT) is essential in calculating days lost in the case of workers' compensation and absenteeism. This estimate differs from recruitment and training costs in which recruitment and training costs are variable rather than directly proportional to days worked.

^{xii} 5.84 days × 0.7 EFT = 4.09 average days lost due to workers' compensation days off per annum.

- Average days lost because of workers' compensation injuries were 4.09 days per annum.
- Salary per day was \$87,896 base salary divided by 240 days worked per annum = \$366.23 per day.
- Cost of average days lost to workers' compensation injuries = 4.09 days per annum × \$366.23 per day = \$1,498 per annum.
- \$1,498 multiplied by -1.1 (ratio of frequency of days lost because of workers' compensation claims of workers 45+ compared with 44 and under) = -\$1,647.
- Net workers' compensation cost of workers 45 and over = -\$1,647 + \$1,498 = \$149 per worker per annum.

Average estimated net workers' compensation cost of a worker aged 45 and over = \$149 per annum.

The costs of time lost because of workers' compensation claims categorised by industry are shown in Appendix 1.

Absenteeism

Absenteeism costs were measured using the Mercer data and were defined as lost time because of unscheduled absence. The unscheduled absence rate was the total number of days absent during the 12 month reporting period. This was inclusive of lost time for personal/carers leave, sick leave, workers' compensation, industrial disputes and other labour reasons.^{18 xiii}

The average days of lost time because of unscheduled absence for all industries were 7.64 days per annum.^{xiv}

The ABS does not currently collect data on absenteeism. Earlier unpublished data by age were used as the most recent data collected that reported findings of a survey of working arrangements over a two week period.¹⁹ This most recent figure was multiplied by 240 working days to calculate the average incidence of absence over a working year. According to this analysis, workers aged 45 and over took 10.4 days of unscheduled absence leave compared to 9.66 days for those aged 44 and under. The ratio of incidence of absence by days of absence for workers aged 45 and over to those 44 and under was 1.08.

^{xiii} The Mercer data aggregates all reasons for unscheduled leave, which includes workers' compensation leave.

^{xiv} 7.64 days × 0.7 EFT = 5.35 days off due to absenteeism per annum.

- Average days lost because of absenteeism was 5.35 days per annum.
- The cost per annum was \$366.23 salary per day \times 5.35 days = \$1,959 per annum.
- \$1,959 multiplied by -1.08 (the ratio of incidence of absence by days of absence for workers aged 45 and over to those 44 and under) = $-\$2,116$.
- Net absenteeism cost of workers 45 and over = $-\$2,116 + \$1,959 = -\$157$ per worker per annum.

Average estimated net workers' compensation cost of a worker aged 45 and over was \$157 per annum.

The costs of absenteeism categorised by selected industries are shown in Appendix 1.

Stage 3: Summary of net human resources contributions of mature age workers

The sum of net human resources costs for individual workers aged 45 and over is shown below.

$\$1,979 + (\text{recruitment benefits}) + \$4,438 (\text{training benefits}) - \$149 (\text{workers' compensation cost}) - \$157 (\text{absenteeism cost}) = \$6,111$ net human resources management contribution per mature age worker.

$4,480,600 \text{ workers} \times \$6,111 \text{ per annum}$
 $= \$27,380,946,600 \text{ per annum}$
 $= \$27.4 \text{ billion.}$

The annual costs savings per individual mature age worker in selected industry sectors (finance, pharmaceutical/health care, and public administration) are shown in Appendix 1.

The economic contribution of mature age workers due to their net human resources benefits = \$27.4 billion per annum.

Discussion

Recruitment

These findings demonstrate that lower recruitment costs occur because there is a lower turnover of mature age workers compared to younger workers. Previous research has supported these findings. Research by McNaught and Barth found that the benefits of a mature age worker were estimated at \$11,173 annually, which is approximately 9% higher than younger workers.²⁰ This benefit was explained by differing turnover rates, which reduced recruiting and training costs. Another seminal study of human resources costs and benefits was undertaken in the UK by the Institute of Management Studies at the University of Sussex for W.H. Smith that examined the costs of replacing a sales assistant. The Institute calculated that mature age workers reduced turnover by 1%, which based on a staff of 3,500 could save the company \$87,500 each year. The conclusion reached was that the lower turnover of mature age workers saved the company money in recruitment and training.²¹

The recruitment of mature age workers is reduced by age discrimination in the workplace, which needs to be countered with organisational policies. Proactive European recruitment initiatives have been promoted through age-balance policies that maintain the representation of mature age workers. For example, Segmuller, a German furniture producer actively sought to retain mature age workers within an age-balanced human resources strategy that retains people by mutual agreement. A Netherlands company, Teijin Twaron, has an 'age-conscious' staff policy and 60% of the workforce was 60 years or mature age.²² In summary, the appreciation of the economic contributions of mature age workers in recruitment and capitalising on the lower turnover of mature age workers requires proactive strategies by organisations.

Training

Lower turnover of mature age workers also resulted in lower training costs required for induction of new staff, while longer tenure capitalised on mature age workers' training investment and experience. At the organisational level, McNaught and Barth's classic US study of the Days Inn accommodation found that the return on investment through retention was realised by mature age workers who were trained.²³ In 1987, after a one year period, 87% of mature age workers aged 45 and over who had completed training were retained compared with 30% of workers who were aged less than 45. A 2013 US Brookings Institute paper used micro-survey data from the Census Bureau Current Population Survey (CPS) to identify the most important determinants of worker productivity. The study concluded that 'mature age, better educated, and more experienced workers are typically more productive and earn higher hourly wages than younger, less educated, and less experienced workers'.²⁴ Billett et al's 2014 Australian research study based on interviews with 34 managers and 86 employees found that continuous workplace retraining and practice-based models are required to maintain past training investment.²⁵ Training was also related to career progression, retention, mentoring and collaboration.

Workers' compensation

The costs of workers' compensation injuries demand proactive occupational and health responses, which have yet to be instituted at state and national levels. Recently, workers' compensation authorities at state and national levels have oriented their interests towards preventive broader health promotion and health and wellbeing. In 2009, WorkSafe Victoria instituted health checks linked with industry and occupational safety information. Internationally, programs such as the Finnish National Forum for Well-being at Work have organised

occupational safety practices, controlling for strain and stress, occupational health monitoring and learning and dissemination.²⁶ The Austrian Social Insurance for occupational Risks (AUVA) and the Social Security Administration measured work ability and interventions in twenty industries, which included training in occupational health practices and work ability coaching. These programs go beyond occupational health and safety to include broader environmental factors.²⁷ A number of measures have been implemented including work analyses, ergonomic improvements and redeployments, and rehabilitation courses.²⁸

Absenteeism

Absenteeism involves complex interactions between medical, social, psychological and human resources factors.²⁹ Although the relationship between age and absence declines until a worker is 45, after this age the rate of absenteeism rises. This trend is related to the susceptibility of mature age workers to chronic illnesses. Demographic factors including being male, having short tenure and part-time status, and performing shift work were also associated with higher rates of absence.³⁰ The time frame for most self-report studies was long, leading to underreporting.³¹ Chronic and minor illnesses contributed to reasons for absences that may go unreported. Employers' return to work policies and the practices of health providers towards rehabilitation also influenced absences. Health checks of more than 500,000 Victorian workers carried out between 2009–12 as part of WorkSafe Victoria's WorkHealth program identified risk factors associated with chronic illness. These included high blood pressure in more than one quarter of workers, an increased risk of developing cardiovascular disease in almost one quarter of male workers, and a high risk of developing type 2 diabetes in nearly one third of male workers.³²

Policy interventions countering absenteeism in the Australian context are linked with programs that prevent occupational work injuries to reduce workers' compensation claims. European case study interventions intended to reduce sick leave include a Swedish case study of workplace strength training to prevent deterioration of work ability among workers with chronic pain.³³ Another case example of a broader intervention is a Dutch worksite lifestyle intervention to reduce sick leave.³⁴ A German study concluded that simultaneously improving individual internally focused satisfaction and fostering work-unit cohesion was the most promising approach to reducing individual absenteeism.³⁵

In summary, data for absenteeism are not systematically collected in national statistics and case study exemplars of initiatives are lacking within the Australian context.

Further 'soft skills' benefits of mature age workers

The contributions of mature age workers cross the boundary between social and economic benefits. Tacit knowledge and wisdom can also transfer organisational culture with added economic value. In a recent AARP (formerly the American Association of Retired Persons) study of 1,000 US human resources managers, almost two-thirds were 'very or somewhat concerned about losing critical knowledge and experience as mature age workers retire'.³⁶ The study also identified soft skills such as communication as a capability that is highly valued in transferring technical and tacit information taking advantage of knowledge transfer across generations. Beck studied UK regional industry-specific training for inexperienced staff who had few credentials.³⁷ The study concluded that there was considerable evidence that mature age workers in construction, engineering, logistics and retail and health used their knowledge and

experience within the work context and passed this on to younger colleagues. In an Australian study of the vocational educational sector, internal work site training through mentorship was found to be a widely used and effective learning modality.³⁸ These studies indicated that mature age workers' 'soft' contributions to training and mentoring were integral to the management of knowledge in organisations.

Yet concurrently, discriminatory age stereotypes form barriers to the appreciation of mature age workers' 'soft' contributions. Australian studies showed that employers' evaluation of mature age workers was commonly associated with traditional stereotypes of reliability, loyalty and dependability. An early large-scale Australian survey of 520 employers across industry sectors indicated that a majority of employers (55%) perceived mature age workers to have greater reliability, loyalty and dependability than younger workers, yet perceptions existed about declining productivity.³⁹ Employers (n=42) and mature age jobseekers (n=143) had different perceptions of which skills were of value in younger and mature age workers. Perceptions converged regarding reliability, punctuality and competency, whereas they diverged regarding the value of experience.⁴⁰ A recent Australian phone survey by the Financial Services Council of 500 respondents aged 50–75 across a range of industry sectors, concluded that Australian employers viewed mature age workers as 'a reliable sources of skills and experience'.⁴¹ Yet concurrently, respondents had a preference for younger workers who were perceived as having 'more energy' than 'experienced hands' with developed skills sets.

Conclusion

The economic and social contributions of mature age workers' participation were calculated in this part of the report. The future costs of the ageing population and the need to reduce debt to avert future intergenerational inequity underscores the Government's policy discourse in the 2014 Budget. The unappreciated value of mature age workers' economic contribution of \$27.4 billion is 58% of the National Audit Commission's 2013–14 estimate of the national deficit of \$47.0 billion.⁴² Further social benefits that were not costed included contributions of 'soft' skills through tacit knowledge and mentorship. The implications of the combined value of social and human resources benefits of workforce participation are discussed in the overall conclusion of the report.

Part 2: The contribution of mature age carers providing informal care

Introduction

The proportion of the Australian population aged 85 and over is projected to increase from 0.4 million in 2010 to 1.8 million (5.1% of the population) by 2050.⁴³ By 2050, it is projected that more than 3.5 million mature age Australians will access aged care services each year, with approximately 80% of services delivered in the community.⁴⁴

Informal care will become increasingly important as the population ages. Approximately 80% of mature age Australians who received assistance in the community received it from informal carers.⁴⁵ According to the Survey of Disability, Ageing and Carers 2009 (SDAC), the proportion of primary carers who were aged 65 and over increased from 21% to 25% between 1998 and 2009.⁴⁶

A simple definition of informal care was provided by Yeandle, Bennett and Buckner (see *Carers, Employment and Services in their Local Context* (2007)): 'Carers look after family, partners or friends in need of help because they are ill, frail or have a disability. The care they provide is unpaid'.⁴⁷ Care relationships vary according to the needs of the person(s) being cared for, the carer's own individual needs, and changing life circumstances. Great diversity exists in care contexts. Care occurs in rural and metropolitan areas and across ethnic groups. It varies according to types of disabilities and includes mental disabilities (e.g. cognitive and psychiatric) and physical disabilities (e.g. chronic conditions such as arthritis and palliative care). It also varies according to the personal contexts of households (e.g. co-residence), and the quality of the pre-existing carer and care-recipient relationships.

The contribution of mature age Australians to informal care

The data used in this section is from the 2012 SDAC, which was conducted throughout Australia between August 2012 and March 2013.⁴⁸ It collected information about people with a disability and mature age people aged 65 and over who were care recipients and their informal carers. The survey found that there were 2.7 million people in Australia who were providing informal care to a mature age person or someone with a disability or long-term health condition. The survey showed that there are more female carers (56%) in Australia than male carers (44%) and that 1 in 5 carers were aged between 55 and 64 years.

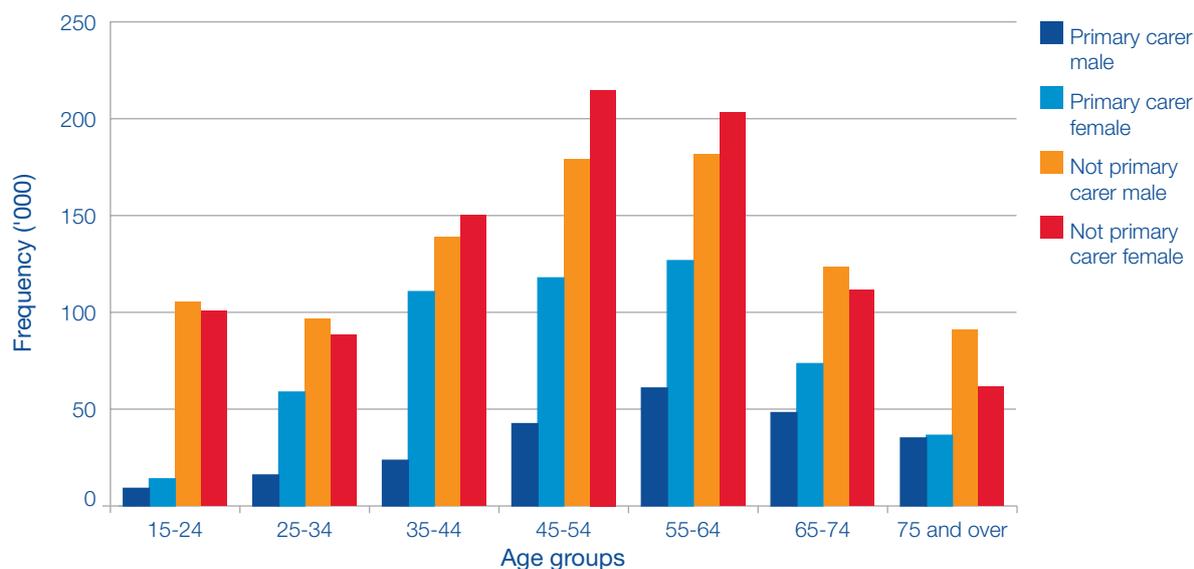
According to the survey, the total number of co-resident primary carers aged 45 and over was 541,000.^{49 xv} An additional 1,166,000 non-primary carers also provided care. The total number of informal carers aged 45 years and over was 1,707,000.

There were predominantly more female primary carers who were younger (Figure 4). There were approximately twice as many female to male primary carers aged between 55 and 64 (126,700 to 60,900). However, at 75 years of age and over there was almost the same number of male and female primary carers (35,100 to 36,500).

^{xv} A primary carer was the person who provided the most informal assistance to a person with a disability, or to a mature age person aged 60 years or over. The care was specifically related to one or more of the core activities of mobility, self-care and communication (ABS 2014). The assistance had to be ongoing, or likely to be ongoing, for at least six months and provided for one or more of the core activities (communication, mobility and self care) (ABS 2009a). Other carers provided some informal assistance but they were not the primary carer (ABS 2009a).

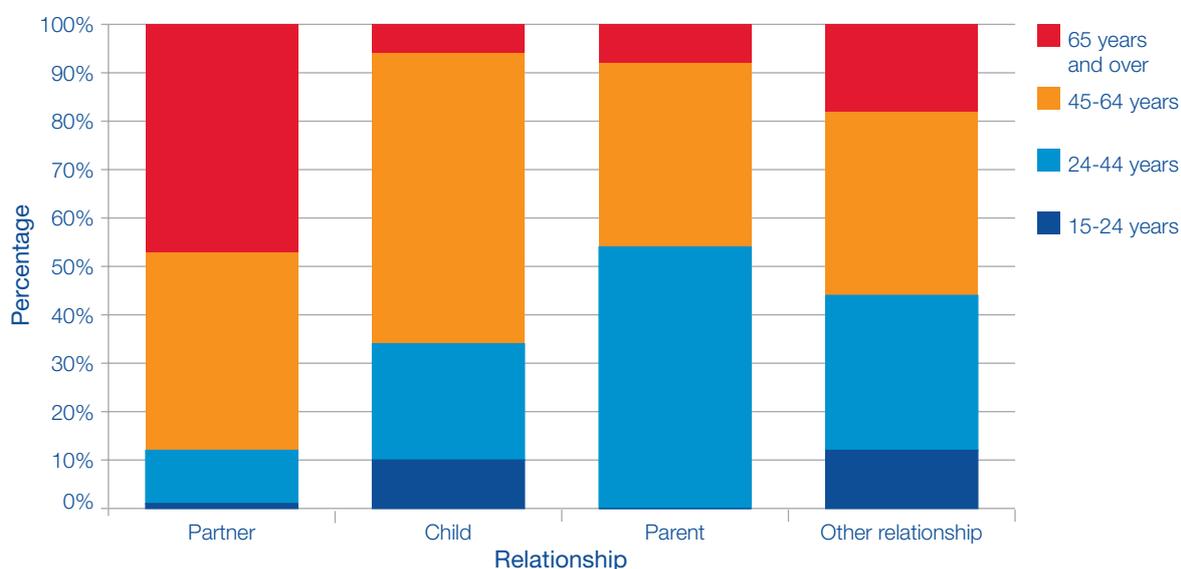
The number of non-primary male carers increased with age. Between 65 and 74 years of age, there were 203,300 male non-primary carers (53%) to 181,400 female non-primary carers (47%). There were more female than male primary carers aged 35-44 and 55-64; however there was an equivalent number of older male and female carers, aged 75 and over. Care by a spouse would most probably account for this reversal of the pattern of care that occurred with age.

Figure 4: Individuals providing informal care ('000s), by age and sex, 2012



Source: ABS⁵⁰

Approximately half (50.9%) of co-resident carers aged 45 to 64 were the partner of the care recipient. Furthermore, 81.4% of co-resident carers aged 65 years and over were caring for their partners.⁵¹ The breakdown by gender of co-resident carers aged 65 and over was: 85.9% of males were caring for their spouse or partner, while 75.7% of female carers were the partner of their recipient.⁵² The type of care that was provided is shown in Appendix 2.

Figure 5: Carer's relationship to care recipient, 2012

Source: ABS⁵³

Informal care contribution by carers aged 45 and over

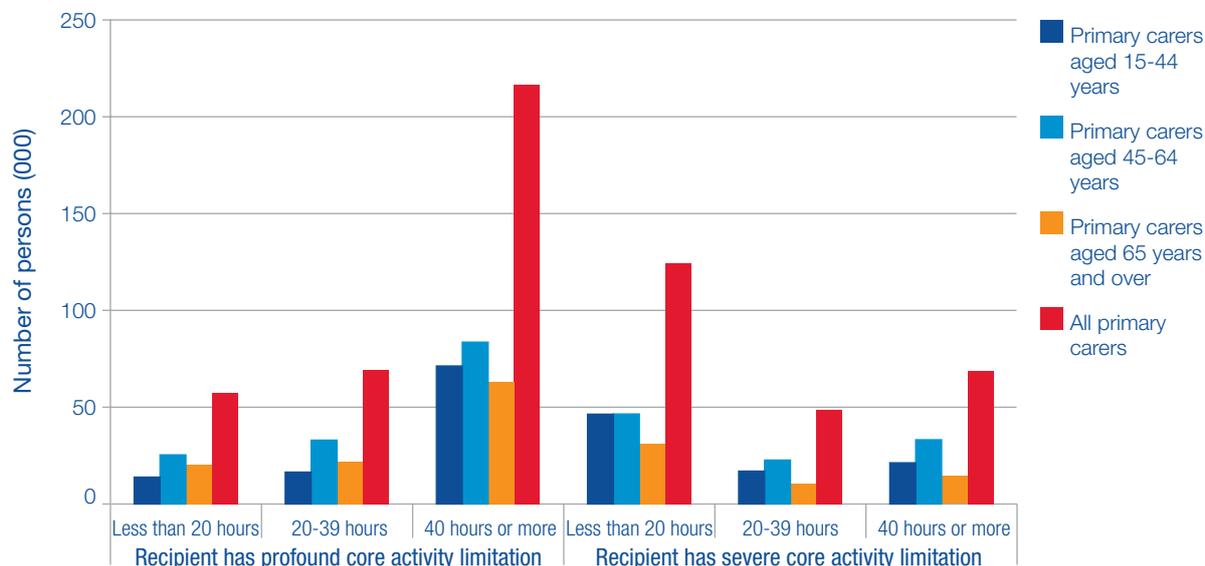
There are two main methods that can be used to calculate the cost of informal care.

The replacement cost method estimates the cost of care according to the value of the care provided, if that care was provided in a formal setting. The opportunity cost method estimates the cost of the time spent by the individual providing care if they had been in paid employment for the equivalent hours spent providing informal care. In this report, the replacement cost method is used to calculate the informal care contributions by carers. The description of how the opportunity cost is calculated is outlined in Appendix 2.

The replacement cost of informal care is calculated by taking the number of people who provided primary informal care to a mature age person, who had profound or severe core limitations, and multiplying this figure by the wage based on the average number of hours of care provided per week. The hours of care provided by informal carers depended on the type of assistance required. For example, assistance with self-care (e.g. eating, dressing, toileting and bathing) and supervision of mobility within a household required more time than episodic activities (e.g. providing transport).

The hours of informal care contributed by co-resident primary carers aged 45 and over to recipients with profound or severe core limitations are shown in Figure 6. The data are presented according to the level of core limitation of the care recipient, the age of the carer and the hours of assistance required by the recipient.

Figure 6: Primary carers ('000s), by age of primary carer, time spent caring for and disability status of main recipient of care



Source: ABS⁵⁴

Analysis of replacement costs of mature age informal carers

The analysis sums the hourly contributions of primary and non-primary co-resident carers. This is then multiplied by the National Institute of Labour Studies estimate of the wage level for community care workers.⁵⁵ Hours of care are categorised as:

1. Assistance with profound or severe core limitations.
2. Assistance with moderate or mild limitations.

Primary carers' assistance for people with profound or severe core activity limitations

The replacement cost calculation was based on the categories of hours of care undertaken by primary carers aged 45 and over for recipients with profound or severe core limitations (Figure 8).^{xvi}

Based on the SDAC data⁵⁶ (which was the most recent data collected on hours of care), primary co-resident carers provided an average 28.3 hours of care per week.

For community care workers working 16–34 hours (the category into which the mean hours of 28.3 falls), wages were estimated at \$596 per week.⁵⁷

The average cost per week was calculated based on the wages for community care workers, as reported for the community care workforce by the National Institute of Labour Studies.⁵⁸

^{xvi} The ABS hours data were produced as categorical rather than continuous data. The categories of hours were: under 20 hours, 20–39 hours and 40 hours and over. The average hours of care per week were calculated as the mean of the three categories of care, based on the data of hours contributed by carers aged 45 and over.

Summary of contribution provided by co-resident primary carers aged 45 and over to assist people with profound or severe limitations:

- Total number of co-resident primary carers aged 45 and over = 541,000
- Average time per week = 28.3 hours
- Average wage per week = \$596
- Total cost per week = 541,000 primary carers 45 and over × \$596 per week = \$322,436,000 per week
- Contribution per annum of primary carers aged 45 and over = \$322,436,000 per week × 48 weeks = \$15,476,928,000 per annum

The primary care contribution of informal carers 45 and over = \$15.5 billion per annum.

Non-primary carers providing assistance to people with mild to moderate core activity limitations

Non-primary carers provided assistance to people with moderate to mild core activity limitations. A large group of non-primary carers aged 45 and over (1,166,100 carers) provided assistance to people with mild to moderate core activity limitations. The cost of non-primary care was based on an estimated average number of weekly hours of five hours, which was used by Access Economics.⁵⁹

Summary of contribution provided by non-primary carers aged 45 and over to assist people with mild to moderate core activity limitations:

- Cost of wages for an average of 5 hours per week = \$89 (One-third of \$268 for 15 hours as a community care worker, based on The National Institute of Labour Studies of wages estimate used above)
- 1,166,000 non-primary carers × \$89 per week = \$103,774,000 per week
- Non-primary carers aged 45 and over contribution per annum = \$103,774,200 per week × 48 weeks per annum = \$4,981,152,000 per annum

The non-primary care contribution of informal carers aged 45 and over = \$5 billion per annum.

Summary

Summary of per annum informal care contribution by carers aged 45 and over providing primary and non-primary care:

Primary care assistance for people with profound or severe disabilities and for people with mild or moderate disabilities = \$15.5 billion

Non-primary carers' assistance for people with mild or moderate limitations = \$5.0 billion

Total value of assistance by primary and non-primary carers aged 45 and over = \$20.5 billion per annum.

Grandparent care

Grandparent care is becoming increasingly recognised as a domain of caregiving. Caring for grandchildren constitutes another category of informal care. Grandparents provided 34% of child care.⁶⁰ The ABS showed that 937,000 children aged 0–12 years were cared by a grandparent (Table 1).⁶¹ The mean hours of care per week provided by grandparents was eight hours.^{xvii}

Grandparent care was the predominant form of child care for two-parent families (33.4%). This exceeded formal long day care (17.7%), family day care (17.7%) and before and after school care (10.9%).⁶² Grandparents also predominantly provided small amounts of care, with 51% providing less than five hours of care. Twenty-two per cent (22%) provided between 5–9 hours, 6% provided between 30–34 hours and less than 1% of grandparents provided over 34 hours of care. Grandparents make an intergenerational contribution that spans two generations by subsidising their child's employment. Work commitments were given as the major reasons for why parents used grandparent care (54%).

Table 1: Children aged 0–12 years who usually attended care, by type of care and usual weekly cost, 2011

	USUAL WEEKLY COST OF CARE						Total	Mean cost (\$)	Median cost (\$)
	No cost	\$1–\$19	\$20–\$39	\$40–\$59	\$60–\$79	\$80 or more			
NUMBER ('000)									
<i>Type of care</i>									
<i>Formal care</i>									
Before and/or after school care	11.2	83.6	63.7	39.1	21.0	17.2	281.0	33.4	24.0
Long day care	15.4	35.9	69.9	67.7	73.4	169.9	496.0	88.2	67.0
Family day care	4.8	18.6	21.2	8.2	7.8	10.6	81.0	42.2	30.0
Total formal care	30.8	138.6	156.4	116.8	101.9	199.6	864.3	66.6	46.0
<i>Informal care</i>									
Grandparent	919.5	1.4	3.5	7.0	0.0	3.3	937.0	0.9	0.0
Other person	589.4	15.3	20.5	12.8	4.7	37.0	681.8	13.8	0.0
Total informal care	1,299.4	15.3	22.9	20.9	4.7	40.3	1,407.9	7.3	0.0

Source: ABS⁶³

^{xvii} The most recent Surveys of Disability Ageing and Carers (ABS 2009; ABS 2012) did not collect data on grandparent care.

According to the ABS the mean hours of formal care (before and after school care, long day care, family day care and occasional care) was 15.2 hours.⁶⁴ The mean hours of care provided by grandparents was eight hours, in other words, 52.6 % of the time provided by formal care.

The percentage of the time that grandparents provided formal care was multiplied by the average cost of formal care (based on ABS figures) to determine the replacement costs of grandparent care.⁶⁵ This estimate is conservative given the range of variation in child care costs.

Ninety-eight per cent (98%) of grandparent care was provided at no cost (Table 1). The mean cost of grandparent care was \$0.90 per week.

Replacement costs of grandparent care:

- Cost of grandparent care = 98% is no cost (Table 1)
- Mean cost of grandparent care = \$0.90 per week (Table 1).
- Formal care cost mean = \$66.6 per week (Table 1)
- Cost of care provided by grandparents per week = 937,000 grandchildren cared for × \$0.90 = \$843,000 per week
- Mean cost of grandparent care per child = \$66.6 per week × 52.6% of formal care hours × 937,000 children = \$32,824,609 per week
- Uncosted grandparent care = \$32,824,609 – \$843,000 = \$31,981,609 per week × 48 weeks = \$1,535,117,241 per annum

Total uncosted contribution of grandparent care = \$1.5 billion per annum.

Summary of the contribution of mature age carers providing informal care

Summary of uncosted informal care contribution of Australians aged 45 and over:

Annual primary care contribution of 541,000 carers = \$15.5 billion

Annual non-primary care contribution of 1,166,000 carers = \$5.0 billion

Total annual primary and non-primary care contribution = \$20.5 billion

Total annual uncosted grandparent contribution = \$1.5 billion

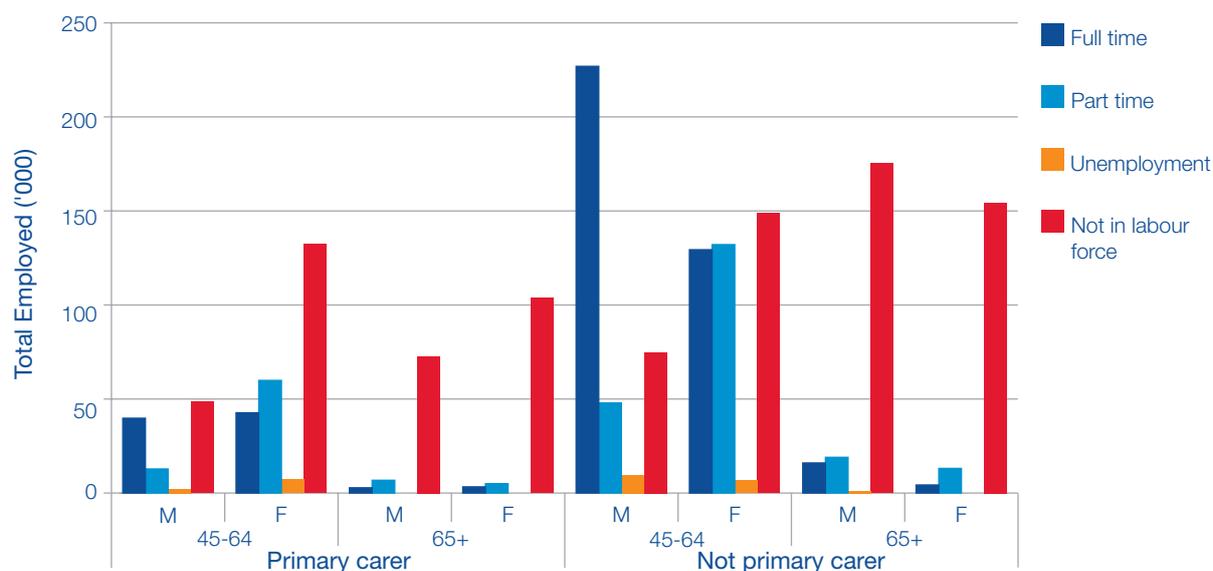
Total annual informal care contribution of Australians 45 and over = \$22 billion.

Discussion

Labour force participation and care

According to an ABS report, *Caring in the Community Australia 2012*, the number of people participating full-time in the labour force is reduced because of their primary caring responsibilities; participation also decreases sharply with age.⁶⁶ The number of female carers aged 45–64 years in full-time work decreased 14-fold from 42,700 to 3,300 female carers aged 65 and over. The number of male carers aged 45–64 decreased 15-fold from 39,000 to 2,800 male carers aged 65 and over.

Figure 7: Carer status by age and labour force status, 2012



Source: ABS⁶⁷

Conflict between work and care

Although the contribution of mature age Australians to informal care is significant, conflicting trends of demographic ageing and increasing workforce participation are reducing the supply of unpaid carers. Demographic trends indicate there will be a decline in the relative availability of informal carers and this coincides with an increased demand for aged care services because of population ageing.⁶⁸ Given the increasing workforce participation rates of people aged 45 and over, there is an emerging gap in the number of carers available to provide care.

Carers also face constrained choices because of shortfalls in alternative support. According to *The Survey of Disability Ageing and Carers*, females and males became carers and looked after their spouses who were over 65 years of age because there were no family or friends available (reason given by 30% of females, and 25% of males respectively) and that care was too costly (reason given by 17% of females and 13% of males).⁶⁹ Concurrently, the formal care system faces skills shortages as reported in the *Aged Care Workforce Report, 2012*.⁷⁰ Half of the community facilities reported skill shortages in one or more occupations; and of the skill shortages in community facilities, a third reported community care worker shortages. Existing informal carers are indispensable given this decrease in the number of informal carers, and the lack of alternative choices and skills shortages in formal community care.

Individual cost of care contributions

The caring contribution of mature age people can also come at an individual cost. Episodes of caring throughout the life course cumulatively disadvantage women. This occurs because their savings for retirement are limited and they end up with a lower superannuation balance. The Sex Discrimination Commissioner, Elizabeth Broderick, expressed concern that women retire with \$112,600 of super savings, compared with \$198,000 for men.⁷¹ In the case of mature age women with low retirement savings and superannuation, caring for grandchildren late in the woman's life results in further interruption and withdrawal from the labour market. The social contribution of grandparents to informal care is concurrently a disinvestment in their retirement incomes. A report by the Social Policy Research Centre provided information on grandparents raising their grandchildren following a statutory court order or informal decision.⁷² The report cited that the 2006 Census had identified 8,050 households headed by grandparents and a further 35,926 families with grandparents.⁷³

The health and disabilities of carers are an integral aspect of care provision for others. Of informal carers aged over 65 years, 108,300 (53.7%) of primary carers reported a disability ranging from profound core limitation to mild limitation. The overall disability rate for non carers was the same for males and females (16%). Carers were also more likely to fall within the two lowest income quintiles. Seventy-six per cent (76%) of carers aged 65 and over were in the lowest two quintiles. This compared with 61.7% of people aged 65 and over who were not carers.

Policy responses

The diversity of the personal circumstances of carers is recognised in frameworks such as the Australian National Carer Strategy, which has six priority areas for action: recognition and respect, information and access, economic security, services for carers, education and training, and health and wellbeing.⁷⁴ Priority 3 is that carers have economic security and opportunities to participate in paid work. The Australian Human Rights Commission has developed a list of support mechanisms for carers including training for managers in carer support, accessing flexible time options and accessing services and programs, e.g. wellness programs, support groups, advice and referral services and partnerships with community groups.

Many countries in the European Union remunerate carers and care recipients through cash payments. Slightly less than half of Organisation for Economic Cooperation and Development (OECD) countries directly compensate carers and slightly half provide cash payments for recipients. Norway, New Zealand, Sweden and the United Kingdom provide both types of cash benefits. Tax relief is provided for caregivers and tax credits exist in the United States and Canada.⁷⁵ Finland, France, Germany, Sweden, and the United Kingdom make wide use of Pension Crediting for Caregivers (PCC) to pursue a range of care situations, which includes grandparent care in the UK.

Two-thirds of the OECD countries for which information is available have leave for carers, although conditions for leave tend to be limited and paid leave is restricted to slightly less than half of the countries.⁷⁶ European initiatives have been proactive in support for carers' social participation. As Yeandle et al (2007) have reported, the Scottish carer's framework has been constructed around the key principle of carers as partners in social care. Carers play a key role, from providing support in the community prior to hospital admission, facilitating hospital

discharge, sustaining attendance and providing support for the person who is frail, disabled or ill. In Germany, employees can reduce their working time to a minimum of 15 hours for up to two years if they need to care for a dependent. Eligibility occurs through a collective agreement or individual contract.⁷⁷

Conclusion

The decrease in the supply of informal carers and the under-supply of formal carers indicates an increasing gap in the interdependent jigsaw of care. This transfer of human capital from caring to paid work will place increasing pressure on the sustainability of the aged care system. As the Intergenerational Report 2010 noted between 2009–10 and 2049–50, health spending is projected to increase seven-fold for those 65 and over and twelve-fold for those 85 and over.⁷⁸ Spending on aged care is projected to increase from 0.8% of GDP in 2010 to 1.8% by 2050, with population ageing accounting for two-thirds of this increase.⁷⁹ These trends underscore the indispensable social and economic contributions informal carers make to the sustainability of aged care.

Part 3: The contribution of mature age Australians as volunteers

Introduction

Volunteers donate unpaid time, skills and personal energy in many domains of public service. Engagement of volunteers' time and effort can enhance social connections and ultimately contribute to economic sustainability.

The definition of volunteerism differs across data collections. Volunteerism, as defined by the ABS, applies to the contribution of unpaid work within the boundaries of formal organisations. The ABS defines a volunteer in the General Social Survey (GSS) as someone who in the previous twelve months willingly provided unpaid help in the form of time, service or skills through an organisation or group.⁸⁰ The HILDA definition of volunteerism covers a broader range of activities and is based on the most recent time use question: 'How much time would you spend on each of the following activities in a typical week?' Included in the list of activities is 'volunteer or charity work (e.g. canteen work at the local school, unpaid work for a community club or organisation)'.⁸¹ This definition also may under-represent informal volunteer contributions outside organisations.

Not-for-profit organisations in the 'third sector' are increasingly providing innovative peer-driven programs in response to inadequate public sector provision. Local government depends on volunteers who are vital to delivering community services such as Meals on Wheels and social support to mature age people in their homes. The imperative to attract volunteers is economically indispensable to service provision in aged care, youth, libraries, and cultural and recreational services delivered by local government.

Examples of voluntary assistance provided by mature age Australians are checking on the health of a housebound neighbour, shopping for a person with impaired mobility and taking a neighbour's dog for a walk. Mature age recipients of services also donate time and energy to others, although 32.2% of volunteers over 65 have a disability or long-term health condition.⁸²

These endemic activities commonly fall between volunteering in formal organisations and informal care provision. The ABS has adopted the OECD definition of social capital, which captures group membership of an informal and formal nature. The OECD defines social capital as: 'networks, together with shared norms, values and understandings which facilitate cooperation within or among groups'.⁸³ The full scope of volunteerism, including the minutiae of activities occurring in the interstices between the boundaries of informal care and formal organisations, is not currently captured by ABS data collected on formal volunteerism.

Analysis of the replacement costs of volunteers

The measurement of the contribution of volunteers was calculated using:

- The total number of hours contributed by volunteers from HILDA 2012 (the most recent time use data)
- An update of a measure of the value of volunteer time.

HILDA 2012 provided the most recent data collected over twelve months of volunteers' hours contributed by people aged 45 years and over.

This data is preferred to ABS Voluntary Work data (2006b and 2010) because it captures a greater frequency of hours.^{xviii}

The estimate provided by HILDA also captures a greater number of activities as volunteer hours, suggesting that the scope of activities is broader than the ABS boundary of contributions within organisations as volunteers.^{xix}

Data from HILDA are also preferred to the 2011 Census data because HILDA data are obtained from interviews, while Census data are self-reported.^{xx}

In 2012, HILDA estimated that 1,632,677 people aged 45 and over were doing some volunteering each year, at an average of 6.09 hours per week.

The value of volunteer time is based on a 2014 update of the figure of \$24, calculated by Ironmonger, which is based on gross weekly wages, including costs and travel (see Ironmonger 2012: 9).^{xxi 84}

Volunteers work predominantly in fundraising, coaching, refereeing and in other related professional roles, as well as in community sector roles (ABS 2006b).

The contribution of mature age Australians as volunteers:

Hours of volunteering per annum of people 45 and over = 1,632,677 volunteers × 6.09 hours per week = 9,943,002 hours × 48 weeks per annum = 477,264,096 hours per year
 477,264,096 annual volunteer hours for individuals 45 and over × \$34.15 per hour = \$16,298,568,876

The contribution of mature age Australians as volunteers is \$16.3 billion per annum.

^{xviii} The ABS Voluntary Work data, however, provided the highest estimate of voluntary workers. Appendix 3 shows the number of volunteers from these data for each age group and gender.

^{xix} The HILDA time use data will be used as this provides a more recent and longer-term time period of 12 months to capture activities than the four-weekly ABS 2006 data. Also, it captures an average of 6.09 hours per week for people aged 45 and over compared with 2.6 hours for the ABS 2006 data. This is approximately three times the ABS rate and suggests these data are broader in scope and capture a great number of voluntary activities occurring outside formal organisations. ABS *Voluntary Work, Australia 2010*, based on the *General Social Survey* (GSS), contained data on frequency, rates and types of volunteerism over a twelve-month reference period. The earlier survey, *ABS Voluntary Work, Australia 2006* provided hours data over a four-week period, which was not collected in the 2010 GSS. It was noted that the ABS data applied to formal organisations excluded other forms of voluntary assistance (see ABS 2006b:27). The increasing prevalence of these activities in the HILDA data in the decade from 2002 indicated the increasing engagement of mature age people in civil activities. HILDA produced a lower estimate of volunteers aged 45 and over than the ABS 2010, which may possibly be because of the collection of volunteering data within HILDA as one of many time use options (e.g. travel, household errands, housework, and outdoor tasks).

^{xx} The 2011 Census data asked a question on volunteers within formal organisations over a twelve month period (Question 51). These data were collected by self-reporting by unpaid assistance. This method is considered to produce lower numbers than interviews (see Ironmonger, 2012:27). A question included in the earlier ABS Survey, *How Use How Australians Use their Time* (2006c) combined voluntary work with care, however, and this combined category prevented a separate analysis of volunteerism.

^{xxi} This earlier estimate of the value of volunteer time was based on the gross opportunity cost wage rates for volunteer and community work in *Unpaid Work and the Australian Economy* (ABS 2000). Changes in the published ABS national accounts estimates for 'average compensation per employee' 1992–2006 were used to estimate volunteer wage rates for the intervening year, 1995, and the subsequent years 2000 and 2006. The 2006 figure of \$24.09 was used to estimate volunteer wage rates per hour. Applied to 2014 dollars, this method used ABS average weekly earnings data (ABS 2014b) that included mainly welfare/ community, religious and sporting volunteers (ABS *Voluntary Work, Australia 2010*).

Discussion

Volunteerism provides opportunities for mature age people to participate outside the paid workforce beyond the norms of being economically 'productive'. This combats stereotypes of mature age people as inactive after retirement. Walker described participation and wellbeing as a fundamental principle of 'active ageing'. He delineated a cycle of wellbeing enabled by participation in social networks, which in turn lead to increased ability, confidence and opportunities supported by energy policy.⁸⁵

Volunteering is also linked to a range of individual health and social benefits.⁸⁶ A study of volunteerism based on the United States Health and Retirement Survey and the European Union SHARE survey found that age is an unsuitable indicator for volunteering in later life. These studies recommended the promotion of healthy ageing and use of skills.⁸⁷ Data from the 1996 Australian Longitudinal Study on Women's Health, from the cohort of women aged 70-75, showed that good health and wellbeing in later life were associated with mature age women's volunteerism.⁸⁸ The usefulness of mature age individuals can persist regardless of physical dependency and in fact, can be indicative of wellness.⁸⁹

Expectations of volunteer roles are changing and volunteers are increasingly expecting that the organisations in which they volunteer provide good quality unpaid employment. A survey commissioned by National Seniors Australia explored the incentives and barriers to volunteering for those aged 50 and over. Results suggested that governments and organisations needed to establish appropriate incentives to encourage volunteering, including more training, more flexible and diverse options, and more opportunities for intergenerational volunteering.⁹⁰ Volunteering Australia's 2011 National Survey of Volunteering Issues found that training gave the majority of volunteers (78.9%) the necessary skills for their role however, nearly 20% of volunteers reported they had difficulty accessing the training they needed to perform their role.⁹¹

Governments are increasingly valuing the social contributions of volunteerism to economic sustainability, which is uncoded in the National Accounts. The Australian Government's volunteering strategy indicates that governments and the community need to better promote volunteering as a positive avenue for community contribution, and foster specific opportunities for volunteer participation including diverse roles for volunteers in organisations that target a diverse cross-section of the community.⁹² Australian states (e.g. Queensland, South Australia and Victoria) have developed cost benefit analyses of the economic contributions of volunteers.⁹³

Walker has commented that there must be a combination of top-down policy to enable and motivate activity and bottom-up policy to provide opportunities for citizens to take action, for example to develop their own forms of activity.⁹⁴ New forms of social cooperation and collegiality are emerging that involve the participation of mature age people in diverse organisations. The 'encore' stage of life beyond retirement is developing new contributions to the wellbeing of future generations. This harnesses purpose-driven human capital, which is an imperative in resolving social problems that have not been resourced through the paid labour force.

Conclusions

Mature age Australians' appreciating value

The net human resources contributions of mature age Australians in the workforce as informal carers and as volunteers to the national economy are currently uncoun­ted.

Australians aged 45 and over make economic and social contributions of \$65.7 billion per annum.

Policy implications of economic and social contributions

The sum of \$65.7 billion is derived from adding the benefits as outlined in Parts 1, 2 and 3 of this report. This is equivalent to approximately one sixth of current total Commonwealth spending in 2013–14 (i.e. \$409 billion), and includes social security, education, health and defence, totalling 25.9% of GDP. It exceeds the current national budget deficit of \$47 billion.⁹⁵ The value of mature age Australians' contributions will appreciate over the next decade in offsetting national debt.

The three sections of this report demonstrated the range of contributions made by Australians aged 45 and over to national social and economic sustainability.

The data in Part 1 showed that human resources costs would be reduced because of the odds ratio of the lower labour mobility of mature age workers compared to younger workers (i.e. 3.7), which was applied as a multiplier in recruitment and training, while further workers' compensation and ABS data was applied to calculate the ratio for workers' compensation and absenteeism. This analysis of human resources management contributions produced annual benefits of \$6,111 per individual mature age worker or \$27.4 billion for workers 45 and over.

Mature age workers' economic contribution = \$27.4 billion per annum.

This sum is more than double the Government's current aged-care expenditure level of \$13 billion for 2013–14 that was cited in *Towards Responsible Government – The Report of the National Commission of Audit* (February 2014).

Part 2 established that the sustainability of the aged care system is largely dependent on informal care provision by mature age carers, which is uncoun­ted in three Intergenerational Reports. A Productivity Commission report (2011)⁹⁶ observed that the economic contribution of informal carers to the care of ageing people is so great that no insurance scheme would be likely to fully fund its replacement. This sum also exceeded the current cost of Commonwealth spending on aged care that costs \$13 billion (Commission of Audit February 2014).

The uncoun­ted informal care contribution made by informal carers aged 45 years and over to multigenerational care for parents, spouses and siblings children and grandchildren = \$22 billion per annum.

The information in Part 3 focused on mature age people's contributions through volunteerism and indicated that innovative forms of collaboration and cooperation are emerging as forms of 'social capital'. This concept broadens the boundaries of informal contributions beyond formal organisations to include the pervasive social assistance embedded in civic life. The OECD definition of social capital captures group membership of an informal and formal nature including networks, together with shared norms, and values and understandings that facilitate cooperation within or among groups.

The uncosted contribution of mature age people's volunteerism = \$16.3 billion per annum.

The value of the economic and social contributions of Australians aged 45 and over has been measured by summing their net human resources benefits, contributions as informal carers and as volunteers = \$65.7 billion per annum.

This sum is five times the current costs of aged care expenditure related to the costs of population ageing in the 2014 Commission of Audit Report (\$13 billion).

This report focused on the current contributions of mature age people. An analysis conducted by Deloitte Access Economics, which was based on data in the Intergenerational Report 2010 projected a 5% increase in mature age workforce participation (people aged 55 and over) to 2024.⁹⁷ A 5 % lift in participation among this group is projected to increase GDP by \$48 billion, or 2.4% of national income. As discussed in the Introduction, the projected contribution of increased older workforce participation to productivity is influenced not only by increasing the aged to working age population ratio, but also by occupation and industry growth patterns, multifactor productivity, including capital equipment and technology, and broader global influences, including terms of trade and currency value.

This report outlined the many social processes that underlie economic contributions in workplaces and in maintaining social cohesion and quality of lives. In the report by the Commission on the Measurement of Economic Performance and Social Progress, Professors Amartya Sen, Joseph E Stiglitz and Jean-Paul Fitoussi questioned the measurement of economic progress by GDP as a measure of societal wellbeing: 'Moreover it has long been clear that GDP is an inadequate metric to gauge wellbeing over time, particularly its economic, environmental and social dimensions, some aspects of which are often referred to as sustainability'.⁹⁸

In the present environment of contracting government expenditures, the appreciating value of mature age Australians' economic and social contributions to sustainability is imperative. This can be achieved by increasing workforce participation and productivity, and informally, by upholding the social net and minutiae of interpersonal exchanges maintaining social life.

References

- 1 Commission of Audit (2014) *Towards Responsible Government The Report of the National Commission of Audit. Phase 1*. Commonwealth of Australia.
- 2 Commonwealth of Australia (2010) *Australia to 2050: future challenges*. Circulated by The Hon. Wayne Swan MP Treasurer of the Commonwealth of Australia.
- 3 Commonwealth of Australia, 2010, op. cit.
- 4 Kooij, D., de Lange, A., Jansen, P. & Dijkers, J. (2008), "Mature age workers' motivation to continue to work: five meanings of age", *Journal of Managerial Psychology*, 23(4) pp. 364–394.
- 5 Feldman D.C. & Ng, T.W.H. (2007). Career mobility, career embeddedness, and career success, *Journal of Management*, 33, pp. 350–377
- 6 Cappelli, P. and Novelli, B. (2010). *Managing the mature age worker*. Harvard Business Review Press. USA, p. 56.
- 7 Australian Bureau of Statistics (2014a). *Labour Force, Australia, Detailed, Quarterly*, Feb 2014. ABS Cat 6291.0.55.003.
- 8 Mercer (2013). *Human Resource Effectiveness Monitor 2013 Edition*. March & McLennan Companies. Mercer Consulting (Australia) Pty Ltd. Sydney NSW 2000.
- 9 Brooke, E. (2003) "Human resource costs and benefits of maintaining a mature-age workforce", *International Journal of Manpower*, 24(3), pp. 350–377
- 10 Australian Bureau of Statistics (2013a). *Labour Mobility Australia*. ABS Cat 6209.0.
- 11 Mercer (2013), op. cit.
- 12 Australian Bureau of Statistics (2013a), op. cit.
- 13 Australian Bureau of Statistics (2013a), op. cit.
- 14 Mercer (2013), op. cit., 2.11.
- 15 Safe Work Australia (2012a) *Compendium of Workers Compensation Statistics Australia 2009–10*. <http://www.safeworkaustralia.gov.au/sites/swa/about/publications/pages/compendium-2009-10>
- 16 Australian Bureau of Statistics (2014b). *Average Weekly Earnings, Australia*. Cat 6302.0.
- 17 Australian Bureau of Statistics (2013b). *Employee Earnings, Benefits and Trade Union Membership, Australia*, August 2013. Cat. 6310.0.
- 18 Mercer 2013, op. cit.
- 19 Australian Bureau of Statistics (1997), *Working Arrangements*, Cat. no. 6342.0, Australian Government Printing Service, Canberra.
- 20 McNaught, W. & Barth, M.C. (1992), "Are mature age workers 'good buys?' – a case study of Days Inns of America", *Sloan Management Review*, Spring, 53–63.
- 21 Employers Forum on Age & Age Concern (1997). *Age, employment & business success. Getting the balance right in recruitment*. <http://www.efa.org.uk>.
- 22 Taylor, P., Brooke, L. & di Biase, T. (2010). European employer policies concerning career management and learning from a life-span perspective. In *Social Life Course Policy*, Naegele, G. (Ed) VS-Verlag, Series on Social Policy.450-470.
- 23 McNaught, W. and Barth, M.C. (1992), op. cit.
- 24 Burtless, G. (2013). *The impact of population aging and delayed retirement on workforce productivity*. Center for Retirement Research Boston College.
- 25 Billett, S., Choy, S., Dymock, D., Smith, R., Kelly, A., Tyler, M., Henderson, A, Lewis, J., & Beven, F. (2014). *Refining models and approaches in continuing education and training*. NCVET. Australian Government, Department of Industry.
- 26 Jokiluma, H. (2011). The National Forum for Well-being at Work. In Clas-Hakan Nygard, Minna Savinainen, Tapio Kirsi and Kirsi Lumme-Sadt (eds) *Age Management and the Life Course*. Proceedings of the 4th Symposium on Work Ability. Tampere University.
- 27 Kloimuller, I. (2011). "Fit for the Future"-the Austrian Program to Maintain Work Ability. 288–295. In Clas-Hakan Nygard, Mina Savinainen, Tapio Kirsi and Kirsi Lumme-Sadt (eds) *Age Management and the Life Course. Proceeding of the 4th Symposium on Work Ability*. Tampere University.
- 28 Naegele, G. and Walker, A. (2006). *A guide to good practice in age management*. European Foundation for the Improvement of Living and Working Conditions.
- 29 Drago, R. and Wooden, M. (1995). A disaggregated approach to the study of absence from work, *Labour and Industry*, 6 (2), 45–67.
- 30 Wooden, M and Drago, R. (1992). The determinants of labor absence: Economic factors and workgroup norms across countries. *Industrial and labor relations review*, 45, (4) (July 1992). 764–778.
- 31 Cant, R., O'Loughlin, K., and Legge, V. (2001). *Sick leave – Cushion or entitlement? A study of age cohorts' attitudes and practices in two Australian workplaces*. Work 17 (2001) 39–48.
- 32 Victorian Work Cover Authority (2012) http://www.vwa.vic.gov.au/_data/assets/pdf_file/0006/120849/WorkHealth-checks-500K-results-fact-sheet.pdf
- 33 Sundstrup, E., Jakobsen, M.D., Andersen, C., Jay, K., Per Aagaard, P. & Andersen, L. (2014). Effect of Two Contrasting Interventions on Upper Limb Chronic Pain and Disability: A Randomized Controlled Trial. *Pain Physician* 2014; 17:145–154.
- 34 Strijk JE, Proper KI, van Mechelen W. and van der Beek AJ (2013). Effectiveness of a worksite lifestyle intervention on vitality, work engagement, productivity, and sick leave: results of a randomized controlled trial. *Scandinavian Journal of Work Environment and Health* 2013; 39(1):66–75.
- 35 Diestel, S., Wegge, J., & Schmidt, K- H (2014). The impact of social context on the relationship between individual job satisfaction and absenteeism: the roles of different foci of job satisfaction and work-unit absenteeism. *Academy of Management Journal* 2014, 57, (2), 353–382.
- 36 Perron, R. (2011). *Employer Experiences and Expectations: Finding, Training, and Keeping Qualified Workers*. AARP Foundation.

- ³⁷ Beck, V. (2008). *Mature age Workers- Mature age Learners. The perspectives of employers in the East Midlands*, Centre for Labour Market Studies University of Leicester.
- ³⁸ Billett, S. et al. (2014), op. cit.
- ³⁹ Steinberg, M., Najman, J., Donald, K., McChesney-Clark, G. & Mahon, C. (1994), *Attitudes and Practices of Employers and Employees Towards Mature age Workers in a Climate of Antidiscrimination*, Department of Social and Preventative Medicine University of Queensland, Queensland.
- ⁴⁰ Ranzijn, R., Carson, E. & Winefield, A. H (2004), *Barriers to mature aged re-employment: perceptions about desirable work-related attributes held by job-seekers and employers*. International Journal of Organisational Behaviour, 8, (7) 559–570.
- ⁴¹ Kreab & Gavin Anderson Worldwide Financial Services Council (2014). *How Mature age Workers are Valued: Results of the National Survey on Attitudes of Mature age Workers*. Final Reports April 2014.
- ⁴² Commission of Audit (2014), op. cit.
- ⁴³ Australian Bureau of Statistics (2014c). *Australian Social Trends*. Cat. 4102.0.
- ⁴⁴ Australian Government Productivity Commission (2011). *Caring for Mature age Australians. Productivity Commission Inquiry Report Overview*. No. 53, 28 June 2011, p. xl.
- ⁴⁵ Australian Bureau of Statistics (2009a). *Survey of Disability, Ageing and Carers Australia 2009*, Cat 4430.0.
- ⁴⁶ Australian Bureau of Statistics (2009a), op. cit.
- ⁴⁷ Yeandle, S., Bennett, C. & Buckner, L. (2007). *Carers, Employment and Services in their Local Context. Carers UK*. University of Leeds. Report No. 4 Carers, Employment and Services Report Series.
- ⁴⁸ Australian Bureau of Statistics (2012b). *Survey of Disability Ageing and Carers*. Cat 4430.0.
- ⁴⁹ Australian Bureau of Statistics (2014d). *Caring in the Community, Australia, 2012*, Cat 4436.0.
- ⁵⁰ Australian Bureau of Statistics (2012b), op. cit.
- ⁵¹ Australian Bureau of Statistics (2014d), op. cit.
- ⁵² Australian Bureau of Statistics (2014d), op. cit.
- ⁵³ Australian Bureau of Statistics (2012b), op. cit.
- ⁵⁴ Australian Bureau of Statistics. (2009a), op. cit.
- ⁵⁵ King, D., Mavromaras, K., Wei, Z., HeJoshua, B., Healy, K., Macaitis, M., Moskos Smith, I. *The Aged Care Workforce, 2012*. Canberra: Australian Government Department of Health and Ageing; Department of Health and Ageing. (2012) *2012 National Aged Care Workforce Census and Survey Report*.
- ⁵⁶ Australian Bureau of Statistics (2009a). *Survey of Disability, Ageing and Carers Australia 2009*, Cat 4430.0.
- ⁵⁷ King et al. (2012), op. cit.
- ⁵⁸ King et al. (2012), op. cit.
- ⁵⁹ Access Economics. (2010). *The economic value of informal care in 2010*. Report by Access Economics for Carers Australia, p. 20.
- ⁶⁰ Australian Bureau of Statistics. (2011b) *Childhood Education and Care, Australia, June 2011*. Cat 4402.0.
- ⁶¹ Australian Bureau of Statistics. (2011b), op. cit.
- ⁶² Australian Bureau of Statistics. (2011b), op. cit.
- ⁶³ Australian Bureau of Statistics. (2011b), op. cit. Table 11.
- ⁶⁴ Australian Bureau of Statistics. (2011b), op. cit.
- ⁶⁵ Australian Bureau of Statistics. (2011b), op. cit.
- ⁶⁶ Australian Bureau of Statistics (2014d), op. cit.
- ⁶⁷ Australian Bureau of Statistics (201d), op. cit.
- ⁶⁸ Australian Government Productivity Commission (2011). *Caring for Mature age Australians. Productivity Commission Inquiry Report Overview*. No. 53, 28 June 2011, p. xxxi.
- ⁶⁹ Australian Bureau of Statistics. (2009a), op. cit.
- ⁷⁰ King et al. (2012), op. cit.
- ⁷¹ Australian Taxation Office (2014) www.ato.gov.au/Media-centre/Media-releases/Super-women-take-action-for-comfortable-retirement/
- ⁷² Brennan, D., Cass, B., Flaxman, S., Hill, T., Jenkins. B., McHugh. M., Purcal, C., and Valentine, V. (2013). *Grandparents raising grandchildren: Towards recognition, respect and reward*. Social Policy Research Centre Report Series. SPRC report No 14/13.
- ⁷³ Australian Bureau of Statistics (2006a). *2006 Census of Population and Housing*, Cat 2914.0.
- ⁷⁴ Australian Government (2011). *National Carer Strategy*. <https://www.dss.gov.au/our-responsibilities/disability-and-carers/publications-articles/national-carer-strategy>
- ⁷⁵ OECD (2011). The impact of caring on family carers. <http://www.oecd.org/els/health-systems/47884865.pdf>.
- ⁷⁶ OECD (2011), op. cit.
- ⁷⁷ Ben-Galim D. and Slim, A. (2013). *The Sandwich Generation. Mature age women balancing work and care*. London: Institute for Public Policy Research.
- ⁷⁸ Commonwealth of Australia (2010). *Australia to 2050:future challenges*. Circulated by The Hon. Wayne Swan MP Treasurer of the Commonwealth of Australia January 2010, p. 5.
- ⁷⁹ Commonwealth of Australia (2010), op. cit.
- ⁸⁰ Australian Bureau of Statistics (2010). *Voluntary Work, Australia*. Cat 4441.0.
- ⁸¹ Melbourne Institute of Applied Economic and Social Research (2012) .Household, Income and Labour Dynamics in Australia (HILDA) Survey, <https://www.melbourneinstitute.com/downloads/hilda/Questionnaires/SelfCompletionQuestionnaireW12M.pdf>

- ⁸² Australian Bureau of Statistics (2010), op. cit.
- ⁸³ Australian Bureau of Statistics (2014d) *Topics @ a Glance - Social Capital: Overview*, <http://www.abs.gov.au/websitedbs/c311215.nsf/web/social+capital+-+overview>
- ⁸⁴ Ironmonger, D. (2012). *The Economic Value of Volunteering in Victoria*. A Report Commissioned by the Department of Planning and Community Development.
- ⁸⁵ Walker, A. (2010). The emergence and application of active ageing in Europe. pp. 585–602. In Naegele, G. *Soziale Lebenslaufpolitik. Sozialpolitik und Sozialstaat*. VS Verlag für Sozialwissenschaften. VS Verlag für Sozialwissenschaften. Wiesbaden Deutschland, p. 596.
- ⁸⁶ Warburton, J., Paynter, J., & Petriwskyj, A. (2007). *Volunteering as a Productive Aging Activity: Incentives and Barriers to Volunteering by Australian Seniors*. University of Queensland. *Journal of Applied Gerontology*, Vol. 26 (4), August 2007, pp. 333–354.
- ⁸⁷ Komp, K., van Tilburg, T., and van Groenou, M.B. (2013). Age, Retirement, and Health as Factors in Volunteering in Later Life, *Nonprofit and Voluntary Sector Quarterly*, 41, 2, pp. 280-299.
- ⁸⁸ Warburton, J., Paynter, J., & Petriwskyj, A. (2007) op cit pp. 333–354.
- ⁸⁹ Parkinson, L., Warburton, J., Sibbritt, D. & Byles, J. (2010) Volunteering and mature age women: Psychosocial and health predictors of participation, *Aging & Mental Health*, 14:8, 917-927, DOI: 10.1080/13607861003801045.
- ⁹⁰ Komp, K., van Tilburg, T., and van Groenou, M.B. (2013). Age, Retirement, and Health as Factors in Volunteering in Later Life, *Nonprofit and Voluntary Sector Quarterly*, 41, 2, pp. 280-299.
- ⁹¹ Warburton, J. et al. (2007), op. cit.
- ⁹² 2011. National Survey of Volunteering Issues. Volunteering Australia. www.volunteeringaustralia.org/wp-content/files_mf.
- ⁹³ Australian Government (2011) National Survey of Volunteering Consultation Strategy Report. 2011. www.dpmc.gov.au
- ⁹⁴ Ironmonger (2012), op cit.
- ⁹⁵ Walker, A. (2010), op. cit., p. 597.
- ⁹⁶ Commission of Audit (2014), op. cit.
- ⁹⁷ Australian Government Productivity Commission. (2011) op cit.
- ⁹⁸ Deloitte Access Economics (2012). Increasing participation among older workers: The grey army approaches. Report prepared for the Australian Human Rights Commission. Deloitte Access Economics Pty Ltd., p.11.
- ⁹⁹ Stiglitz, J.E., Sen, A. Fitoussi, J-P. (2009). Report by the Commission on the Measurement of Economic Performance and Social Progress. www.stiglitz-sen-fitoussi.fr



GPO Box 461, Melbourne VIC 3001
E: info@productiveageing.com.au

P: 03 9650 6144 F: 03 9650 9344
W: www.productiveageing.com.au